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Editorial

Before we reach a number of important events addressing both trade and environment in December, this penultimate issue of the BioRes Review in 2011 tackles a range of trade and environment topics.

In our first article of the issue, Arunabha Ghosh - CEO of the New Delhi think tank "Council on Energy, Environment and Water" - offers a riveting analysis on the need for legal and policy clarity on the use of clean energy subsidies.

Hannes Schloemann of WTI Advisors and Marie Wilke of ICTSD then tackle the complex issues surrounding the famous WTO Tuna-Dolphin dispute between the United States and Mexico. The first iteration of this case brought home the relevance of trade rules to the environment community. Schloemann and Wilke unpack the legal issues of the case and discuss the possibilities of an appeal by Washington.

Willemien Viljoen from the South Africa-based Tralac Trade Law Centre follows with an article on the link between Aid for Trade and the transition to a green economy. Viljoen argues that the two are crucial to African development and that future Aid for Trade plans should carefully consider past experiences.

This issue of BioRes Review features an abridged version of an article by Joy Aeree Kim, which analyses the role of trade in services at the WTO and recommends how they can be used to ensure climate change mitigating technologies are effectively diffused.

Faith Campbell of the Nature Conservancy then provides a fascinating look at potential environmental and economic impacts of the unintended importation of invasive species through trade in goods. Campbell calls on policymakers to ensure introductory pathways can be closed off quickly and to ensure that adequate resources are made available to sanitary and phytosanitary agencies.

Finally, in our third Rio+20 briefing, we look at the way in which trade is increasingly influencing discussions surrounding the June 2012 conference. With several countries concerned about the ways in which the term "green economy" could impinge upon their competitiveness, some are taking a more cautious approach to determining the meeting's agenda.

With the end of 2011 now in sight, the Bridges Trade BioRes team is busily planning for two of the largest events on the trade and environment calendar: the UNFCCC's Seventeenth Conference of the Parties (28 November-9 December in Durban, South Africa) and the WTO's Eighth Ministerial Conference (15-17 December in Geneva, Switzerland). We are working closely with our colleagues who are planning major trade and sustainable development events that will take place on the sidelines of both meetings (see the BioRes events calendar at the back of this issue).

As always, BioRes will be providing our readers with regular reporting from both events, which will be sent as special updates as the meetings unfold. At COP 17, BioRes will file three Bridges Durban Updates at the opening, midway point, and closing of the meeting. Likewise, subscribers will also receive daily briefings in the form of Bridges Daily Updates from the WTO's Ministerial Conference.

We hope you enjoy the issue!

Governing clean energy subsidies: Why legal and policy clarity is needed

By Arunabha Ghosh

International competition in the area of renewable energy is intensifying. On the flipside, investment is often lacking, due to uncertainties in the policy framework. Among the issues needing further clarification is the role of renewable energy subsidies, with potential new cases looming at the WTO.

For the last two years, the world's leading economies (via the G20) have been debating how – and committing to – reduce subsidies for fossil fuel-based energy. These subsidies, amounting to more than US\$550 billion annually, artificially keep prices low, distort energy choices and contribute to carbon emissions. Compared to this level of support, subsidies for renewable energy were estimated at US\$43-46 billion in 2010. Counting energy subsidies is no easy task, and estimates vary. But there is no doubt that support for clean energy is a fraction of the public funds devoted to sustaining fossil fuel sources. Yet, the governance of clean energy subsidies is beginning to emerge in global and national policy discourse. Nearly two billion people have no access to modern sources of energy. Increasing energy access is going to be one of the key ingredients for human development. At the same time, energy-related CO₂ emissions are also expected to increase over the next two decades, especially in developing countries. Clean energy subsidies are, therefore, needed to support two simultaneous transitions: from no energy to energy access; and from fossil fuel-based energy to a low-carbon energy pathway. But are clean energy subsidies entirely uncontroversial? If not, what are the sources of contention – and what can we do about them?

The raison d'être of clean energy subsidies: From energy access...

Why are clean energy subsidies needed? The answer, in short, is energy access and market failure. Increasing energy access to dispersed population settlements becomes harder the further they are from the electricity grid. This is particularly problematic for rural households. Even in densely populated regions, low electricity demand from rural households can make the installation of secondary and tertiary transmission lines and distribution systems uneconomical. Such households are unlikely to enjoy energy access unless part of the capital costs are subsidised.

Subsidies to increase energy access are not necessarily net costs for governments. The use of traditional biomass fuels for cooking and heating has severe health implications, especially for women. Access to modern energy sources means improved health outcomes, benefits that are often not included in economic cost-benefit analyses. Such omissions result in a market failure, whereby energy utilities have no incentive to extend transmission lines when the social benefits of better health outcomes are not internalised in their balance sheets. In these cases, subsidising off-grid energy systems might make even more sense.

...to addressing market failure

Market failures also emerge for clean energy technologies. Since solar, wind, small hydro, geothermal, and other renewable energy sources add up to only a small share of the electricity generation capacity in most countries, the average costs of additional capacity installation remain much higher than for the dominant fossil fuel sources, like coal or gas. Once again, not counting the positive environmental externalities of switching to cleaner sources of

electricity means that pure economic calculation would preclude clean energy investments. And once again, there is a case for subsidising renewable energy both to increase scale (and thereby drive down costs) and to make energy choices based on a real reflection of the economic, social and environmental costs and benefits of alternative technologies. When the benefits of shifting away from traditional fuels are added along with the avoided fuel costs of using diesel or kerosene, subsidised off-grid renewable energy applications have yielded significant returns. Solar photovoltaic (PV) systems, for instance, have offered economic returns and consumer surplus of 27 to 94 percent for projects in Bolivia, China, Indonesia, Philippines, and Sri Lanka.¹

Industrial policy and jobs

There are other rationales offered for clean energy support as well, but they need not make sound economic or policy sense. One is industrial policy. China, for instance, has elevated renewable energy and environmentally-friendly and energy-efficient technologies to the level of “strategic emerging industries”. By promoting the export of 95 percent of its domestic production, China’s solar panel manufacturing industry rapidly grew to become the world’s largest.² For its 12th Five Year Plan it is now planning US\$300 billion of investment each year to be divided among seven strategic industries. The objective is to take advantage of market trends and close the relatively small gap between emerging and developed economies in these new sectors, according to Vice Premier Li Keqiang.³

The trouble is that picking winners is seldom easy. There is the danger of distorting markets and credit flows, encouraging rent seeking and other anti-competitive practices, locking in existing technologies at the cost of future innovation, or simply adding excess capacity relative to demand. China’s National Reform and Development Commission, its powerful planning body, observed that its wind energy sector was already suffering from over-capacity, thereby questioning the need for and ability to absorb such large-scale investments.⁴

Another rationale is job creation. Some have argued for promoting clean energy industries to create millions of “green jobs.” The German renewable energy industry, for instance, employs 380,000 people with 108,000 in the solar PV industry alone.⁵ The argument for green jobs has

1 World Bank (2008) “Operational Guidance for World Bank Group Staff: Designing Sustainable Off- Grid Rural Electrification Projects: Principles and Practices,” November, p. 4; Accessed 31 October 2011.

2 Bradsher, Keith (2009) “China Builds High Wall to Guard Energy Industry,” *New York Times*, 14 July, p. B1.

3 Hart, Melanie (2011) “China Eyes Competitive Edge in Renewable Energy,” 24 August; accessed 31 October 2011.

4 China Daily (2010) “China mulls \$1.5t boost for strategic industries,” 3 December; accessed 29 October 2011.

5 Vaughan, Adam, and Fiona Harvey (2011) “Solar subsidies to be cut by more than half,” *Guardian*, 28 October.

particular resonance in recession-hit economies, justifying billions of dollars of stimulus spending in pursuit of reducing unemployment rates. While such efforts could increase employment in clean energy sectors, they need not create *additional* employment if job losses in fossil fuel industries are taken into account. Moreover, the overall contribution is itself small, at least in advanced economies where energy production might not account for a large share of the economy.⁶

Policy tensions around clean energy subsidies

These alternative rationales for using clean energy subsidies to pursue different policy and political ends mean that, despite the strong case for supporting a transition to a low-carbon economy, several tensions have either already emerged or are visible on the horizon.

At least four imperatives are driving a growing international debate on the governance of clean energy subsidies. The first clearly is the **environment imperative**. Climate change negotiations are, partly, hinged on promoting the transfer of clean technologies to developing countries and providing the financial resources to adopt these technologies. Investments in cleaner energy infrastructure have an incremental cost over and above what it would have already cost to install fossil fuel-based coal or gas-fired plants. Whether the incremental costs are covered from domestic or

international funding sources, clean energy subsidies are needed until renewable energy reaches “grid parity” with fossil fuel energy. The question is how the incremental costs will be covered, and whether the financial support will be sustained over a period sufficient to scale up deployment of new and emerging clean energy technologies.

The other environmental imperative is the notion of a “green economy,” one of the two defining themes for the Rio+20 Sustainable Development Summit, scheduled for June 2012. As a concept, green economy aims for sustainable development along with poverty eradication, comprising a lens to focus efforts on advancing economic and environmental goals simultaneously. While laudable as an aim, many developing countries have stressed that pursuit of a green economy should preserve “ample flexibility and space for national authorities to make their own choices and define their paths towards sustainable development based on national circumstances and priorities.”⁷ This is important, because how clean energy subsidies are governed would depend on how much flexibility individual countries retain in defining their low-carbon pathways. Each country

6 Levi, Michael (2011) “New Energy Jobs Won’t Solve the U.S. Unemployment Problem,” *Foreign Affairs Snapshot*, 18 October; Accessed 19 October 2011.

7 UN General Assembly, 2010, “Objective and themes of the United Nations Conference on Sustainable Development,” Preparatory Committee for the United Nations Conference on Sustainable Development Second Session, A/CONF.216/PC/7, 22 December, paragraphs 10, 14.

“By promoting the export of 95 percent of its domestic production, China’s solar panel manufacturing industry rapidly grew to become the world’s largest.”

would give priority to different clean energy sectors and to the form of support used. But not all support measures have similar consequences for other countries. The choices between subsidising R&D versus deployment, energy access versus manufacturing, clean energy production versus exports, all have differential impact on consumers, project developers, and equipment manufacturers at home and abroad.

The **technology imperative** is the second source of potential tension. Recent years have witnessed significant growth in manufacturing capacity and deployment of clean energy generation capacity (Germany and Spain in solar; China and the United States in wind and solar, for instance). But many technologies still remain at the R&D stage or have not been deployed at a scale that would make them commercially viable just yet. Technological innovation and leadership in these emerging sectors are partly a function of a country's indigenous scientific prowess. But many bilateral ventures are also underway to jointly develop new technologies. In India, the most recent example is the US\$100 million India-US Joint Clean Energy R&D Centre. At the multilateral level too, negotiations concerning a Technology Mechanism under the UN Framework Convention on Climate Change have assumed a critical role. The question is how partner countries support these joint ventures – through direct financial transfers or by contributions in kind – and how the fruits of such labour are shared.

Thirdly, the **economic imperative** underlies many of the decisions regarding investing in clean energy sectors. Sustainable energy investments rose steadily from the third quarter of 2004 (at US\$4 billion) to the fourth quarter of 2007 (peaking at US\$40 billion). The dip in investments began from early 2008, preceding the onset of the global economic crisis by a few months. Investors in clean energy might exit relatively less mature sectors sooner, or choose to defer their investment decisions until well after signs of general economic recovery become visible. Once again, the role of subsidies to smooth the fluctuations in clean energy sectors and increase investor confidence has become an international concern for sustaining investments in the face of the climate challenge.

A collective international concern, however, does not mean that all countries will converge on the role of national policy. Subsidies for clean energy sectors *during* a recession could assume a mercantilist purpose as well, especially if domestic industrial development, manufacturing capacity and employment generation come at the expense of other countries. Governments, and firms, are interested not only in the collective good of cleaner, low-carbon energy, but also in industrial and economic competitiveness.

And, therefore, the fourth source of tension: the **trade imperative**. Mercantilist policies discriminate between foreign and domestic firms within a country. They can also discriminate between imported clean energy products and local manufactures. Subsidies could be granted to promote clean energy exports, making domestic firms more competitive in the international market. Such concerns have prompted Japan and the European Union to launch a dispute at the World Trade Organization (WTO) against Ontario's feed-in-tariff scheme, primarily because of the built in provisions on local content requirements. Most recently, the United States has notified the WTO that nearly 200 Chinese

subsidies, many of them for clean energy purposes, have bankrolled Chinese companies at the expense of trade opportunities for American firms. Negotiations at the WTO on trade in environmental goods and services are also hampered by rival definitions of how to define such goods and services that have dual purpose, and then how to reduce tariff and non-tariff barriers, especially if the latter promote domestic clean tech industries.

Moving the debate ahead

Why should policy-makers and stakeholders in the trade community care about the imperatives for clean energy subsidies and the emerging tensions? The number of countries seeking to scale-up renewable energy investments, driven by some or all of the four imperatives discussed, is growing. Emerging economies, which still have to provide access to energy to many of their citizens and stand at the crossroads of choosing between alternate energy technologies, stand out in this regard in particular. Meanwhile, calls for transparent notification of subsidies are intensifying and some legal cases in the area of renewable energy have already entered the WTO arena. Such legal challenges could have a dual impact: constraining countries' policy space and lowering investor sentiment, if the continuity of policies supporting clean energy is called into doubt.

What can be done? At least five aspects of the governance of clean energy subsidies need attention. First, common metrics to count subsidies can help to increase transparency. Secondly, the relationship between rationalising fossil fuel subsidy programmes as a precursor to promoting clean energy sources should be further emphasised. Thirdly, greater policy clarity is needed to establish the purpose of government support. While retaining policy flexibility is important, subsidies to increase energy access or energy generation capacity would have completely different impacts from those geared primarily for promoting manufacturing and exports. The pursuit of policy clarity would allow countries to review their policies and justify those that have limited mercantilist impacts. Therefore, fourthly, independent assessments of alleged adverse impacts of subsidy policies could reduce the threat of unilateral trade sanctions or other penalties.

Finally, international institutions with rules governing trade, energy flows and climate change need greater coordination.⁸ For clean energy sectors, whether this takes the form of a separate agreement or clarifies existing rules can remain an open question for now. The months leading up to the Rio+20 summit are an opportunity to focus international attention on the issue. If the transition to a low-carbon green economy is going to be a long haul, then the aim must be to offer policy and legal clarity regarding supporting measures over the long term.

8 Ghosh, Arunabha (2011) "Seeking Coherence in Complexity? The Governance of Energy by Trade and Investment Institutions," *Global Policy* 2 (Special Issue): 106-119.

Dr Arunabha Ghosh is CEO of the Council on Energy, Environment and Water, an independent policy think-tank in New Delhi. He is also Associate at the Global Economic Governance Programme and the Smith School of Enterprise and the Environment, Oxford.

Not-so-voluntary labelling in the WTO tuna-dolphin dispute

By Marie Wilke and Hannes Schloemann

On 15 September, a WTO panel handed down a mixed ruling in a dispute brought by Mexico over the US “dolphin-safe” label for tuna products. The three panel members – confronted with the difficult question of whether requirements for a voluntary label can be a de facto mandatory regulation and as such disciplined by WTO law – handed a weak victory to Mexico by deciding that the measure, in fact, amounted to a mandatory technical regulation and was too trade restrictive. The panel members visibly struggled to find common ground on this critical point, however, with one member issuing a dissenting opinion.

While an appeal is expected, the decision is already considered a landmark ruling on the WTO’s Agreement on Technical Barriers to Trade (TBT). Given the increasing use of labels – be it for fair-trade coffee, organic vegetables or a product’s carbon-footprint – the ruling could have far-reaching consequences and joins a number of other TBT cases currently at the WTO.

The panel considered three essential TBT questions in particular: the mandatory vs voluntary nature of standards; what constitutes an international standard; and when a technical regulation can be considered more trade restrictive than necessary. Although Mexico had brought claims under both the TBT Agreement and the WTO’s General Agreement on Tariffs and Trade (GATT), the panel only considered the TBT arguments. Regarding the TBT non-discrimination claims made by Mexico, the experts sided with the US in ruling that the label did not discriminate on the basis of nationality, and found it unnecessary to look at the parallel claims under GATT. Article XX GATT – virtually synonymous with the GATT’s/WTO’s Tuna-Dolphin saga so far – was not addressed at all in the present dispute. Interestingly, the US never even raised a defence under GATT Article XX. This was risky, as they could not necessarily expect the panel to dismiss Mexico’s TBT non-discrimination claims and not rule on the GATT as a result.

The dispute, with roots dating back to the pre-WTO era, concerns a voluntary labelling scheme for tuna products caught in a dolphin-safe manner. The US 1990 Dolphin Protection Consumer Information Act (DPCI Act) prevents the use of the label for tuna from the Eastern Tropical Pacific (ETP) caught with so-called purse seine nets by encircling dolphins, even if independent observers can certify that no dolphins were killed or seriously injured during the specific catch. For tuna caught outside the ETP, on the other hand, it suffices for the captain of the vessel to certify that no dolphins were intentionally netted or encircled during the catch. Non-ETP tuna importers are not obliged to prove that no mortalities or serious injuries occurred.

Washington justifies the differential treatment with the unique relationship between tuna and dolphin schools in the ETP, where tuna swarms tend to follow dolphin groups beneath the surface. Fishermen strategically use this natural relationship by intentionally setting on dolphins in order to catch the tuna that swim below. Historically, many dolphins were killed as a result. Modern fishing practices, however, allow dolphins to be released alive when the tuna is captured.

Eligibility for the Department of Commerce-sanctioned label is no legal prerequisite for importation. However, in reality most of the processing and end-use market is closed for non-certified tuna as processors, wholesalers and retailers hedge against unlabelled products. Mexico, whose fleet predominantly uses purse-seine nets, says that this limitation *de facto* makes the label mandatory - and as such disciplined by

the TBT Agreement’s stricter rules on governmental technical regulations, as opposed to the less stringent rules on voluntary standards.

Can something voluntary be *de facto* mandatory?

The use of “behind-the-border” measures affecting international trade is increasing. The TBT Agreement is meant to ensure that technical regulations and standards are not misused to unfairly discriminate between products and producers or to create unnecessary obstacles to international trade. According to the TBT Agreement, technical regulations and standards differ only in their degree of compulsiveness. A technical regulation is mandatory, while a standard is voluntary. Up until the current case, this distinction was considered to be rather straightforward. The dispute at hand, however, suggests otherwise.

The treatment of otherwise voluntary measures, which do not tolerate the parallel application of any alternative measures – or at least no measures that follow a different approach – is delicate. In the case of the Commerce dolphin-safe label, the US prohibits labels that deploy a “non-injury” rather than a “fishing method” approach; It prohibits labels that require that no dolphin was killed or seriously injured during the catch but permit the use of purse-seine nets. As US consumers largely refuse to purchase products that bear no label, they crowd out products that may have been caught in an arguably “dolphin-safe” manner, but by a fishing method outlawed by the only label-type available. Does this scenario make the regulation *in effect* mandatory?

The issue is critical, as the Mexican tuna fleet invested heavily to comply with what it understood to be internationally-accepted standards. This occurred after the US and Mexico, with other states, concluded the Agreement on the International Dolphin Conservation Programme (AIDCP). The agreement established a “non injury” label, requiring the US to change its labelling practice to adopt the standard. Mexico’s modern fishing fleet complies with this standard. Today AIDCP is considered to be one of the most efficient and comprehensive programmes for animal conservation worldwide. Comprising a complex system for monitoring and verification, it has reduced observed dolphin mortality in the ETP by around 99 percent.

Nonetheless, consumer protests and a series of Federal Court rulings prevented the US Department of Commerce from changing its label. The objective of the now-retained fishing-method approach – focusing on the practice of setting on dolphins and on purse-seine nets – is to address also non-observed injuries and mortalities that could result from the stress that dolphins experience when being chased, or from dolphin calves being separated from their mothers.

This interplay of public and private actions undeniably severely affected Mexican tuna exports.

While the three panellists agreed that a document was mandatory when it prescribed or imposed something, they failed to find consensus on whether the DPCI Act was of such compulsory nature.

Regulation of information can be mandatory, majority finds

The US dolphin-safe label “regulates information in a binding or compulsory fashion,” the majority opinion of the panel report states. “It is not compulsory to meet these requirements but they do prescribe or impose the conditions under which a product may be labelled dolphin-safe.” One could certainly argue – and many have – that this is the very nature of a labelling scheme. It prescribes certain requirements that need to be met in order for a product to be eligible for the label.

The US dolphin-safe label reaches beyond this, the majority of the panel ruled. The case is about “regulating in a binding fashion the information that may be conveyed.” The label “prescribes certain requirements that must be complied with in order to make *any* claim relating to the manner in which the tuna was caught in relation to dolphins,” the two panellists found.

This is the crux of the matter. According to the panel, a regulation’s binding character may well concern the regulation of consumer information. If a measure regulates what sort of information may be given to consumers, thereby restricting producers’ ability to market their products fully, it may well qualify as a mandatory regulation. The panel noted: “the US Act prohibits [not only the use of the dolphin-safe label and similar labels] but the use of terms such as “porpoise” or ‘marine mammal’ or any statement relating to dolphins whether misleading or otherwise.” The regulation thus prohibits not only false and misleading information, but it restricts the kind of lawful information that may be made available to consumers. This negative compulsory regulation of information – the exclusion of any alternative labels, including the AIDCP dolphin safe label that Mexican fishermen comply with – makes the otherwise voluntary standard a mandatory regulation, the panel majority decided.

The emerging distinction between a restriction on the misuse of voluntary labelling and a restriction resulting in a *quasi* compulsory regulation is thin. This may have a bearing in situations where perceptions differ from science, for example when “organic” labels require products to be free of genetically modified organisms (GMOs) because this corresponds to what consumers expect, while scientists argue that the concept of organic production (without fertilizers and pesticides) is unrelated to the presence or absence of GMOs. Yet, if such *de facto* mandatory regulations are left unregulated, the TBT Agreement would run the risk of losing part of its “bite.” In the Tuna ruling, the panel sought to find a balance between these different concerns – for the moment, however, it remains at most a case-specific construct.

A dissenting opinion

The highly contentious nature of the discussion is also reflected in the dissenting opinion issued by one panel member who disagreed with the conclusion that the measure was mandatory. She/he stressed that “mandatory compliance” as a distinctive quality of technical regulations “relates more fundamentally to the fact that the measure at issue prescribes or *imposes* compliance with specific requirements to allow a product to be marketed, without allowing discretion to depart from them.” The expert found that the actions that made the label “necessary” (rather than mandatory) were private in nature - namely consumers’ preferences - and could not be associated

with the US government.

Dissenting opinions are no novelty in WTO law. But nowhere before have panellists disagreed on a turning point - that is, an element that impacts all that follows in the panel’s legal analysis. If one other member had agreed with the “dissenting opinion,” the panel would have had to reject all of Mexico’s TBT claims, which relied entirely on the label’s classification as a technical regulation. In an arguably risky move, Mexico had abstained from making possible claims under the TBT provisions relating to voluntary standards.

The depths of science before the panel

Based on the majority opinion, the three panellists engaged in discussion on whether the measure - now identified as a technical regulation - was more trade restrictive than necessary to achieve its legitimate objectives.

Article 2.2 of the TBT Agreement provides that technical regulations shall not be “adopted or applied with a view to or the effect of creating an unnecessary obstacle to international trade.” That is, they should not be more trade restrictive than necessary to achieve a legitimate objective - including the prevention of deceptive practices, or the protection of human health or safety, animal or plant life or health, or the environment. The panel considered the DPCI Act to pursue two of these legitimate objectives: the prevention of deceptive practices by ensuring that consumers are not misled or deceived about whether tuna was caught in a manner that adversely affects dolphins; and protecting animal health and life by discouraging the use of fishing techniques that adversely affect dolphins. According to the panel, these two issues are fundamentally complementary. “The measure seeks to provide a disincentive for certain behaviour, based on consumer choices.”

The panel did not appear overly concerned with the potentially far-reaching consequence of the approach, namely that members in the future may well feel empowered to use their consumers’ buying power more freely to influence the production methods in other members. As one observer pointedly put it: “PPMs (the controversial process and production methods) are here.”

Importantly, the panel found that “a measure that aims at the protection of animal life or health need not be directed exclusively to endangered or depleted species or populations, to be legitimate. Article 2.2 refers to ‘animal life or health’ in general terms, and does not require that such protection be tied to a broader conservation objective.” Though mentioned only in passing, this finding stirs up an ongoing discussion among animal welfare experts over whether animal life or health, or resource conservation, respectively, extend to animal welfare. Some experts have even argued that animal welfare is a fundamentally distinct concept not addressed by WTO law.

The panel rejected Mexico’s argument that the legitimacy of the US’ objectives was impaired by the fact that alternative fishing methods effectively promoted by the US may actually lead to significant negative effects on other marine animals. Claims of policy incoherence are foreseen in some situations by the SPS Agreement, but do not figure explicitly in the TBT Agreement or elsewhere. Citing long-standing Appellate Body jurisprudence - which stresses the autonomy of members to define their policies and to determine the level of protection pursued - the panel found that it was the US’ right to focus on dolphins exclusively and to aim at the prevention of non-observed mortalities and injuries.

Although recognising the US objectives as legitimate, the panel nonetheless sided with Mexico when stating that the degree of regulation was more trade restrictive than necessary.

The panellists reached this conclusion after an 80-page discussion of the current label's effectiveness and the question of whether serious injuries and mortalities among dolphins occur outside the ETP. The panel's chosen starting point for this discussion was the notion that a measure may be considered more trade restrictive than necessary when a less trade restrictive alternative exists.

The panel engaged primarily in a discussion on effectiveness, focusing on animal welfare, conservation and consumer protection, rather than on trade impacts. The resulting in-depth analysis of scientific evidence is rather unusual for a WTO panel outside of SPS disputes. In SPS cases, special rules on the role of science provide more clarity and panels routinely rely on the use of outside scientific expertise.

The panel clearly struggled with the task. The experts even acknowledged that they did not possess the level of expertise required to make a final determination on some of the issues. In light of this, it might have been wise for the panel to seek the support of scientific experts, as allowed by the TBT Agreement.

Eventually, the panellists concluded that the current Commerce label was indeed more trade restrictive than necessary in the sense that it limited the information available to consumers - which in turn also limits the label's effectiveness for discouraging the use of adverse fishing practices. The panel found fault with the label because it did not sufficiently regulate dolphin bycatch outside the ETP, even though dolphins are harmed outside the ETP by fishing techniques other than purse-seine nets. "Where tuna is caught outside the ETP, it would be eligible for the US official label, even if dolphins have in fact been caught or seriously injured during the trip," the panellists criticised.

The panel accepted the US' contention that the AIDCP label, on the other hand, does not capture un-observed dolphin injuries and mortalities, thereby misleading consumers as to the level of dolphin protection. However, the panel also found that the Commerce label misleads consumers, as it suggests that no dolphins have actually been killed or seriously injured while, in fact, it can guarantee this only for the ETP. Both labels were thus found to be equally insufficient to achieve the US' objectives, albeit in different ways. On that basis, the panel agreed with Mexico that it would be less trade restrictive to allow both labels to apply in parallel. It "would contribute to informing consumers about the precise dolphin-safe characteristics of the various techniques to harvest tuna," the panel concluded its analysis. While the finding is somewhat *Solomonic*, it seems open to debate. Can two "wrongs" - neither label properly achieves the US' objectives, the panel found - really make one "right"? The idea that this would be achieved through the cumulative informative effect of the two insufficient labels applying alongside each other certainly provides food for thought.

A possible consequence of the reasoning is rather bittersweet for Mexico. Instead of implementing the panel's suggestion, the US could comply with the ruling by making its requirements *stricter* so as to encompass fisheries outside the ETP with similar vigour as those within the ETP.

What qualifies as an international standard?

Mexico further claimed that the AIDCP label should be recognised as a relevant international standard and as such

- by means of Article 2.4 of the TBT Agreement - function as a benchmark for the US' labelling practice, which on this basis should be ruled illegal. The panel eventually dismissed this argument, as it considered the AIDCP standard alone to be unsuitable to achieve the US' chosen level of protection. It did, however, make some statements that could have far-reaching systemic consequences. In the absence of a definition of "international standard" in the TBT Agreement itself, the panel - as suggested by the Agreement - turned to guidelines by the International Standardisation Organisation (ISO guidelines) that define the term. On that basis, the panel established that an international standard had to be, *inter alia*, adopted by an international standardising or standards organisation.

The panel held that the AIDCP members collectively acted as a standardising body, but only after finding that the associated institution established through the agreement had a constitution, its own administration and (despite its primarily regional character) an open membership. As such, the panel severely limited the scope of what qualifies as an international standard. Following that argument, each international standard would have to be adopted by a standing body with an administration, even where countries decided to establish the standard otherwise, for example by explicit treaty. Whether this was intended by the drafters of the TBT Agreement when they referred to the ISO guidelines remains uncertain, but it is clear that in times of international roundtables and technical commissions, this narrow understanding of an international standard could be troublesome.

Questionable judicial economy

The dispute is likely to proceed to the appellate stage. Not only did the US lose the case, but the panel's findings on quasi-mandatory regulations could potentially have far-reaching consequences for the future application of the TBT Agreement, something the US or even Mexico might want to see clarified by the Appellate Body.

In that case, the Appellate Body might be confronted with a tricky constellation due to the panel's exercise of judicial economy - that is, the neglect of legal arguments that it considered unnecessary to solve the dispute. Referring to its TBT findings on the non-discriminatory nature of the label, the panel decided not to examine Mexico's discrimination claims under GATT (despite Mexico's somewhat passionate insistence). While the provisions are indeed very similar, they do vary slightly, as TBT Article 2.1 focuses on discrimination "in respect of technical regulations," while the GATT provisions are much broader. This could become problematic at the appeals stage, as the Appellate Body must rely on findings made by the panel in respect to facts.

A welcoming approach to *amici curiae*

Another procedural peculiarity was the panel's treatment of *amicus* briefs, i.e. non-solicited submissions from non-parties. In perhaps the friendliest treatment accorded so far to an *amicus* submission, the panel not only generally accepted a submission received from an animal rights group and a university (as most panels and the Appellate Body now routinely do, only to dismiss them as not relevant). It explicitly noted that it had in fact considered information from the brief to be relevant, and had brought salient points to the attention of the parties for comments. Future *amici* may hope that this will find imitators.

Marie Wilke is ICTSD's International Trade Law Programme Officer. Hannes Schloemann is a Director of WTI Advisors Ltd. and a partner at MSBH Bernzen Sonntag Rechtsanwälte.

Aid for trade and the green economy in Africa

By Willemien Viljoen

The environmental challenges faced by most African countries hold the potential to derail their current developmental path. Their economies are reliant on agriculture, tourism and fisheries as these are among the largest sources of employment, economic growth and exports on the African continent. Yet, it is these selfsame sectors that are the most vulnerable to climate change and other environmental risks. Development is further hampered by the lack of energy security and self-sustainability as the potential of renewable energy as a generator of economic growth and development has yet to be recognised.

Nonetheless, by choosing to address their shared environmental problems, the African continent has the opportunity to create a new economic growth path. Moving towards a green economy, based on sustainable policy measures and investment, would enhance the livelihoods of the poor through employment creation and the overall reduction of poverty.

What is the green economy?

A green economy can broadly be defined as an economy that results in improved human well-being and social equity while significantly reducing environmental risks and managing the ecological scarcities which can play such a pivotal role in the economy of most African countries. The benefits of such an economy are plentiful: from increasing the value derived from agricultural, fisheries and forest activities; to reducing the vulnerability of the poor to the impact of climate change and creating opportunities for new innovation; to increasing the sustainability of agriculture as well as enhancing eco-tourism opportunities. A green economy will also provide cleaner sources of energy to rural communities and promote sustainable urbanisation.

By shifting African economies towards a green economy model it is possible to enhance economic growth and human development by creating the opportunity for green growth and employment, all the while minimising the exposure of future generations to the extreme dangers posed by environmental risks. All this notwithstanding, a key question remains - how can African countries transition their current economic framework to one of a green economy without burdening the current generation with the high cost of transformation?

International trade is seen as an integral component in the toolset aimed at sustainable development and the transition to a green economy. However, enhanced market access opportunities on their own are not enough. The transition requires financial and technical assistance; a possible avenue for this is through Aid for Trade programmes to increase Africa's participation in international trade while concurrently strengthening environmental goods and services trade-related infrastructure and minimising supply-side constraints.¹

What role for Aid for Trade?

The Aid for Trade initiative comprises development assistance programmes offered by developed countries to support the development of basic economic infrastructure and tools in developing and least-developed countries (LDCs). The initiative is organised under the auspices of the WTO and is aimed to expand trade and allow LDCs to participate more effectively in the global trading system. Aid for Trade seeks to enhance the capacity and capabilities of suppliers in developing countries by: improving their competitiveness in international markets; 1 UNCTAD (2010). *The Green Economy: Trade and Sustainable Development Implications*

enabling developing countries to reach their developmental goals; and harness the potential of trade as an engine for economic growth.²

At its core, Aid for Trade supports trade liberalisation through technical assistance to improve the capacity of developing countries to export by utilising efficient infrastructure and institutions. Without reducing pre-existing supply-side and infrastructural constraints prevalent in developing countries, the potential positive impact international trade-related reforms and improved market access conditions can have on economic development and poverty alleviation are limited.

There are six categories traditionally covered by the Aid for Trade initiative:

- Trade policy and regulation, including assistance with the implementation of trade agreements and institutions required to comply with rules and standards;
- Trade development like trade finance, business facilitation and trade investment promotion;
- Trade-related infrastructure which includes all forms of physical infrastructure like roads, transport and storage, communications and energy but excludes water supply and sanitation;
- Building productive capacity entails any activity which contributes to improving a country's ability to produce goods and services;
- Trade-related adjustment which are measures that mitigate the economic cost of trade liberalisation; and
- Other trade-related needs

For the purposes of the African economies' move towards a green economy model, the most important category appears to be "improvement of trade-related infrastructure":³

Aid for Trade in an African green economy transition

For any Aid for Trade initiative to be successful in transitioning African economies towards a green economy, the initiative must ultimately create trade conditions that will lead to sustainable development. The focus should thus be on the improvement of environmental conditions and poverty alleviation. This can be achieved by assisting African countries to maintain their existing market share as well as opening up new export markets for African economies in environmentally- 2 Najam, A. (2009). 'Aid for Trade for Sustainable Development'. In: de Lombaerde, P. and Purdi, L. (Eds.) *Aid for Trade: Global and Regional Perspectives*. UN University Series on Regionalism, Volume 2. 3 Ancharaz, Vinaye Dey and Riad A. Sultan (2010). *Aid for Trade and Climate Change Financing Mechanisms: Best Practices and Lessons for LDCs and SVEs in Africa*, ICTSD Programme on Competitiveness and Sustainable Development, Issue Paper 10.

friendly goods and services.

Aid for Trade programmes can be provided in different sectors of the economy and take on various forms:

- Capacity building initiatives to develop an analytical framework to assess the impact of trade agreements and policies on all areas of the economy, including the environment and the natural resources of a country;
- Developing productive capabilities in specific green economic sectors;
- Building the necessary capacity to support sustainable production and process methods in African countries;
- Assistance in identifying viable and feasible markets for environmentally-friendly goods and services;
- Building the technical capacity of countries to meet the standards, regulations and requirements applicable to trade in environmental goods; and
- The investment in specific sectors like renewable energies, agriculture, tourism and forestry.

Specific areas of the African economy, in which Aid for Trade programmes can make a significant contribution towards greening the economy, include agriculture, water resources, energy and ecotourism. Aid directed towards these sectors would mainly fall under the Aid for Trade categories of improvement of economic infrastructure and building of productive capacity. Infrastructure projects that can be associated with a green economy include renewable energy programmes and the enhancement of water resources through the construction of dams and modernisation of water distribution systems. Programmes in the area of greening agriculture and developing ecotourism could be classified under the Aid for Trade category of building productive capacity. Aid could be utilised for agricultural research, soil rehabilitation, changes in crop mix, the development of climate change resistant crops and the development and promotion of eco-tourism services.

Eco-tourism, or tourism in natural surroundings, can be a very important source of green growth for African countries given the natural endowment of most in this regard. Eco-tourism is generally built on community-led tourism activities and operations that preserve the natural eco-system, while generating employment for unskilled labourers in rural communities. These activities normally do not require vast capital outlays and investment, making it an ideal industry for fostering economic growth in African countries with natural resource abundance and capital scarcity.⁴

Such Aid for Trade initiatives would recognise the complex relationship between trade and the environment. Trade and trade-related policies can have a significant impact on the environment, but the environment can also impact trade. This is particularly true for African economies, which, are highly dependent on exports of natural resources and agricultural products as a source of economic growth and development.

Concerns in the transition to a green economy

The shift towards a green economy holds huge economic and social potential for countries in the region. There are, however, some obstacles that are inherent to the current basis of African economies which challenge the attainment of green-led growth and development. The fundamental challenge of moving to a green economy, faced by all African countries, 4 UNEP (2011). *Why a Green Economy matters for the Least-Developed Countries*.

is improving employment, wealth and social services while lowering the absolute utilisation of, and dependence on, non-renewable natural resources, as well as shifting to a low-carbon energy system.

Due to the uneven distribution of natural resources through the different African countries in the region, the shift to a green economy will need to take place without regional displacement of resources. A transition to a green economy requires a significant investment to facilitate the necessary structural changes. These include changing the production function, improving infrastructure, and enhancing technological capacity and capabilities. These challenges represent a gap in current Aid for Trade programmes supported by developed countries.⁵

The structural constraints of African countries – including their high dependency on agriculture, limited access to energy and low economic diversification – must be addressed in order to facilitate the shift towards a green economy. Evaluation is a necessary part of any attempt to address trade-related challenges. Environmental regulations, standards, labelling and certification standards applicable to the trade in environmentally-friendly goods must all be taken into account and analysed. The same holds true for potential unilateral border tax adjustments to protect domestic firms, and green subsidies in the importing market.

African countries need to enhance their ability to address all these measures in order to be able to fully benefit from new market access opportunities available under a greener economy.

Looking forward

Developed and developing countries can utilise the lessons learned from previous experiences with the Aid for Trade initiative to ensure success in, future, greener programmes. It has been amply demonstrated in the past, by initiatives in any sector in the economy, that there is no one-size-fits-all model able to incorporate Aid for Trade in the economy. The differing economic structures, institutions, economic growth rates and stages of development of the African economies must be carefully considered. Programmes must complement a country's national development and economic programmes, future plans and structures. The Aid for Trade programme should: be fully integrated into the overall development and poverty alleviation strategies of the country.

Any initiative must create clear and transparent criteria for monitoring the attainment of goals, targets and timelines. Initiatives must be strictly needs-based, building integrated analytical and assessment capacities, stakeholder participation and policy-making and implementation capabilities. One of the most important factors required for a successful transition to a green economy through Aid for Trade is an enabling of the domestic environment by including supportive domestic regulations, legislation, financial assistance and technological advancement.⁶

⁵ Economic Report on Africa 2011. *Chapter 3: Selected Current and Emerging Development Issues in Africa in 2010*.

⁶ UNCTAD (2008). *Aid for Trade and Development: Global and Regional Perspectives*.

Willemien Viljoen is Researcher at Tralac Trade Law Centre.

Climate change at the WTO: Services and the diffusion of mitigation technologies

By Joy Aeree Kim

A vast range of services across multiple sectors classified in the WTO's list of proposed environmental goods and services for liberalisation appears to be related to implementing climate change policies. Since the Copenhagen conference on climate change in 2009, a renewed engagement in WTO negotiations on environmental goods and services has been witnessed, with the issue of climate change increasingly taking centre stage in the process. Despite the widely touted potential benefits of liberalising trade in environmental goods and services for the fight against climate change, many challenges stand in the way of realising such benefits.

First, identifying a reasonable set of climate change related services that could be subject to a negotiation on trade liberalisation is a daunting task, as they are likely to be spread around multiple sectors.

A disconnect between the negotiations on environmental goods and services is another challenge, as certain climate friendly goods are indispensable for delivering the associated services and vice-versa. In addition, a lack of progress on environmental services negotiations revolving around the issue of classification does not help WTO members schedule meaningful commitments in supporting climate change services.

Against this backdrop, it is crucial to address these challenges by identifying services that are directly linked to climate change mitigation technologies and analysing specific commitments made by the major trading countries. Given that some of the key services required for mitigation – ranging from energy efficiency projects to utility-scale wind power projects – are often unavailable in the host countries, liberalising trade in these services could not only facilitate the diffusion of associated climate change mitigation technologies, but also enable countries to easily access such services.

Current negotiations on services related to climate change

Beginning in 2001, the successive round of negotiations on trade in services to the Uruguay Round is still ongoing. The WTO Council for Trade in Services set the request-offer approach in negotiating specific market access commitments in services. By April 2011, 71 initial offers and 31 revised offers were submitted to the WTO. In addition, the negotiation on environmental services is taking place at the Special Session of the Committee on Trade in Services. The progress of negotiations on environmental services has been slow, including a struggle with updating the current General Agreement on Trade in Services (GATS) classification. In particular, a “dual use” problem persists as a serious challenge, as certain environmental services overlap increasingly with services classified within other services sectors. Opinions are divided, however, as to whether appropriate classification is a pre-requisite for scheduling meaningful commitments in supporting climate change. Some argue that the absence of an appropriate classification does not prevent Members from negotiating on climate change related services. What is more important is to ensure that each schedule is internally coherent by avoiding overlap among sectors and defining the scope of the commitments clearly and precisely.

Furthermore, the GATS allows ample flexibilities for specifying the scope of commitments in members' schedules. Under the GATS, all WTO Members are subject to general obligations, including most-favoured nation (MFN) treatment and transparency, which apply to all service sectors. However, the main GATS obligations, namely market access and national treatment, apply only in sectors where members undertake “specific commitments,” which are listed in their national

schedule. Members can select the sectors and modes of supply for which they are ready to undertake specific commitments, with various types of limitations in order to meet national policy objectives. Thus, once there is agreement on the scope of services that support climate change, members are free to specify their commitments on climate change-related services across different sectors in their schedules within the current structure of classification.

Identifying services that help diffuse climate change mitigation technologies

“Complementary services of climate change mitigation technologies” that cut across multiple key mitigation sectors identified by the Intergovernmental Panel on Climate Change (IPCC) - such as energy supply, transport, buildings, industry, and waste - largely fall in the following Centralised Product Classification (CPC) groups: other professional, technical, and business services; construction services; and sewage and waste collection treatment and disposal and other environmental protection services (i.e., environmental services excluding “sanitation and similar services” hereafter).

Among “other professional, technical, and business services,” engineering services together with construction services are key to delivering effective public services such as wastewater treatment, transportation systems and electricity generation and transmission. Predominantly entailing advisory, design, consulting and project management functions, engineering services are complementary to construction services and many firms provide integrated packages of engineering and construction services together. As new channels of electronic supply are creating new business opportunities and the international sourcing of engineering services is becoming increasingly common, developing country exports of engineering services are on the rise. While trade data on this group of services at the national level is hard to come by, some existing data reveals that countries such as India, Brazil, the Russian Federation, Singapore and the Republic of Korea are large exporters of ‘other professional, technical and business services’. As an importer, Kazakhstan – in addition to these emerging economies – appears to be a big player in this area.

Construction services are involved with implementing various mitigation options across multiple sectors, including energy supply, transport, buildings, industry, and waste. While many developing countries largely remain as importers of construction services, several emerging economies as well as economies in transition are arising as successful exporters of these services. Following the EU, Japan and the United States, countries such as China and the Russian Federation appear to be major exporters in this sector.

Environmental services excluding “sanitation and similar services” also appear to be directly linked to climate change mitigation technologies in several sectors, such as energy supply, forestry/forest, and waste. Most of the large

multinational corporations are based in the US, the EU, and Japan and the market value of these three regions accounts for 81 percent of the world market value in 2007. While the precise trade volume of environmental services is difficult to approximate, given data limitations, the existing data for the environmental industry reveals that 90 percent of total exports in this area in 2010 were from the EU, the US, and Japan. While developing economies are catching up fast, the market in developing countries is largely comprised of small and medium-sized enterprises.

Major trading countries' specific commitments

According to the GATS, service suppliers are either natural or legal persons. The modes of supply differ depending on the location of the service provider and the location of the service consumer. The predominant modes of supply for the "complementary services of climate change mitigation technologies" are "commercial presence" (Mode 3) and "movement of natural persons" (Mode 4), since providing services to construct and engineer power production projects, energy efficient buildings, or industrial plants and wastewater treatment plants requires the establishment of a commercial presence. The provision of such services also needs to be complemented by a range of relevant professional, technical and business services, which are supplied by a temporary movement of qualified service providers.

The provision of services through "cross-border supply" (Mode 1) is also increasing thanks to new channels of electronic supply particularly in "other professional, technical, and business services" as well as in "environmental services" sectors. Hence, WTO Members' commitments on Mode 1 across all three CPC groups are increasingly becoming important to facilitate trade in these services.

The analysis of major trading countries' specific commitments on these services groups reveals that only a handful of the countries have made a full commitment. Australia, for instance, has made a full commitment across relevant "other professional, technical and business services." Canada and Chinese Taipei have done so on relevant "environmental services" excluding "sanitation and similar services." None of the major trading countries has made a full commitment on relevant construction services.

While the majority of trading countries concerned left Mode 4 unbound except as indicated in the horizontal commitments, most of them have put horizontal limitations on Mode 4. The most frequent form of such limitations is "restrictions on entry and temporary stay of various services providers including intra-corporate transferees, contractual service suppliers, business visitors, services salespersons and independent professionals."

The degree of commitments on Mode 1 appears to vary across the three groups of services. While the majority of trading countries considered Mode 1 inapplicable to construction services, and hence left it unbound, only a handful of countries have left Mode 1 unbound in "other professional, technical, and business services" and "environmental services" excluding "sanitation and similar services."

Few countries appear to have offered new commitments across the three groups of services in their initial or revised offers during the Doha Round. The only new commitments made in the initial or revised offers are the EU's limited commitments on "services incidental to energy distribution" and Australia's new commitments on "other environmental services."

No discernable progress seems to have been made on horizontal limitations in the initial or revised offers either. The review of the initial or revised offers in this area shows that the nature

of horizontal limitations and where the limitations lie in terms of the modes of supply remain largely the same. It is notable, however, that many countries which initially left Mode 1 unbound in the environmental services sector have put limited commitments in their offers. Given the increasing importance of Mode 1 in providing complementary services of climate change mitigation technologies, improved commitments particularly on "other professional, technical, and business services" could help facilitate trade in these services. The complementary nature of Mode 3 and Mode 4 in supplying the interlinked services also deserves due consideration in addressing the limitations on these modes of supply.

Conclusion

Specific commitments made under the GATS may have a stronger impact on regulatory competence than tariff bindings have in goods trade, creating favourable conditions for investment and access to technology if an adequate regulatory framework is provided. The analysis of the major trading countries' specific commitments on the complementary services of climate change mitigation technologies reveals that the principal modes of supply for these groups of services are largely limited, and so far limited progress has been made in WTO members' initial or revised offers in this area.

In addition, several empirical studies reveal that some of the key services required for mitigation options – ranging from energy efficiency projects to utility-scale wind power projects – are often unavailable in the host countries. Liberalising trade in these services, therefore, could not only facilitate the diffusion of associated climate change mitigation technologies, but also enable countries to easily access such services. Although concerns are raised that "complementary services of climate change mitigation technologies" discussed in this paper might exacerbate the persisting problem of "dual use" as they cut across multiple sectors, the GATS allows ample flexibilities to specify the scope of commitments in members' schedules.

It should be borne in mind however that facilitating trade in "complementary services of climate change mitigation technology" goes beyond the boundary of the GATS since trade barriers to these services are not restrained to the issue of market access and national treatment. For instance, given that the public sector appears to be the largest client across all three groups of services, regulations concerning government procurement could have a significant impact on trade in these services. An empirical study shows how some existing practices and a lack of transparency in this area could create barriers to trade in environmental goods and associated services. It goes without saying that certain government regulations play an important role in the environmental goods and services market. Given the close links between the two, however, it is crucial to address the issue of liberalising trade in complementary services of climate change mitigation technologies in conjunction with the discussion on the plurilateral agreement on government procurement in the WTO.

Furthermore, a variety of domestic laws, regulatory measures, and administrative rules could affect trade in these services. Domestic regulatory measures such as building regulations and associated technical requirements or regular inspection requirements for safety are such examples. In facilitating trade in complementary services of climate change mitigation technologies, therefore, relevant regulatory measures as well as administrative rules need to be addressed in tandem.

Joy Aeree Kim wrote this article as an independent consultant. This paper is an abridged version of a longer study recently published by ICTSD.

The hidden cost of trade: Invasive species as a trade “externality”

By Faith Campbell

Importation of invasive species is an intrinsic risk of international trade.¹ As trade volumes rise, so do introductions. Preventing introductions is widely recognised as preferable to responding after they occur. Prevention measures require exporters and importers, as well as national governments and trade-promoting and managing entities such as the World Trade Organization, to implement steps aimed at ensuring that the exchange of goods is not accompanied by the dispersal of damaging organisms.

This article examines one of many possible examples: transport of tree-killing insects and disease pathogens in crates, pallets, and other forms of wood packaging. According to P.E. Hulme in the *Journal of Applied Ecology* (2009), pest movement in wood packaging is further facilitated by faster transport and the four-fold expansion in use of shipping containers.

Challenges under the current regime

Countries trying to protect their trees and forests and associated ecosystem services from damage by introduced pests face a dilemma. US plant health (phytosanitary) officials have determined that increasing inspection of incoming shipments will not be effective in curtailing introductions of invasive species in wood packaging because the pests are hidden inside the wood. However, tackling the problem through the adoption of phytosanitary regulations mandating other measures is difficult due to constraints imposed by the World Trade Organization's Agreement on the Application of Sanitary and Phytosanitary Standards (SPS Agreement) and the International Plant Protection Convention (IPPC).

The SPS Agreement requires that phytosanitary safeguards have the least possible impact on trade. Furthermore, in most cases only the relatively few pests that have been evaluated by a pest risk analysis (PRA) may be regulated. The PRA must evaluate each pest for its likelihood of establishment, potential impacts, and efficacy of proposed measures. “Pathway” risk assessments are allowed, but they too must evaluate each pest using the pathway under the same criteria.

When it comes to protecting the Earth's forests, this restriction presents a nearly impossible challenge. The vast majority of arthropods and fungal pathogens that could attack undomesticated plants in receiving countries' ecosystems - as distinct from agricultural crops - are unknown, and thus not addressable by PRA. An international panel of experts convened by the International Union of Forest Research Organizations found that only seven percent of plant pathogens are known to 1 U.S. Congress, Office of Technology Assessment. 1993. Harmful Non-Indigenous Species in the United States; Holmes, T.P., J.E. Aukema, B. van Holle, A. Liebhold, and E. Sills. 2009. Economic Impacts of Invasive Species in Forests, Past, Present, and Future. *The Year in Ecology and Conservation Biology*, 2009: Ann. N.Y. Acad. Sci. 1162: 18-38 (2009); Colunga-Garcia, M., R.A. Haack, and A.O. Adedija. 2009. Freight Transportation and the Potential for Invasions of Exotic Insects in Urban and Periurban Forests of the United States. *J. Econ. Entomol.* 102(1): 237-246 (2009); Burgiel, S., G. Foote, A. Perrault, C. Williams. 2005. Invasive Alien Species Prevention Strategies: Avoiding Conflicts with the International Trade Regime. Center for International Environmental Law; Chiron, F. S.M. Shirley, S. Kark. 2010. Behind the Iron Curtain: Socio-economic and political factors shaped exotic bird introductions into Europe. *Biological Conservation* 143 (2010); Westphal, M.I., M. Browne, K. MacKinnon, I. Noble. 2007. *Biological Invasions* (2007) Volume: 10, Issue: 4.

science. Among the tree-killing pathogens that were unknown to science until they had been introduced to naïve ecosystems are *Ophiostoma ulmi* and *O. novo-ulmi* (“Dutch” elm disease), *Phytophthora cinnamomi* (ink disease), and *Phytophthora ramorum* (sudden oak death).

Many wood-boring or bark-dwelling insects are carried as eggs or larvae inside wood, including wood packaging. According to US Forest Service data, nearly 60 newly-detected non-native species of wood-associated insects have been recorded in the US since 1985. Kirkendall and Faccoli in *Zoo-Keys* (2010) report that Europe has recorded seven new species of wood-boring or bark-dwelling insects just since 1999.

Wood-boring insects: the cost of new introductions

Two examples of such species are the Asian longhorned beetle (ALB) and emerald ash borer (EAB). According to Haack, Hérard, Sun, and Turgeon (2010) and the US Department of Agriculture, ALB has been introduced at least 7 times each to both North America and Europe. EAB has been introduced only once to each continent, but has spread more aggressively. About 20 years after introduction, EAB populations have been established in portions of 15 US states and the Canadian provinces of Ontario and Quebec. Together, ALB and EAB kill dozens of species of trees from 15 plant families. Because vulnerable species constitute about one-third of urban trees in the country, even a partially uncontrolled outbreak imposes staggering costs. Removing or treating trees threatened by pests associated with wood packaging currently cost local governments some US\$1.7 billion each year. Homeowners lose an additional US\$1.5 billion per year in tree removal costs and reduced residential property values.² These costs will rise in the future as the pests spread and impact additional areas.

These estimates do not include damage to ecosystems from tree loss. Studies have shown that urban trees remove air pollutants; sequester atmospheric carbon; provide residential heating and cooling energy savings; and reduce storm-water runoff. Rural forests sequester carbon, protect watersheds, provide habitat to multitudes of dependent species, as well as support employment in wood products and eco-tourism industries.

Research by Juliann Aukema and others has found that economic damage to the forestry sector from the wood-boring pests has to date been much less than that to urban trees - an estimated US\$130 million per year. The authors say this is likely due to the relatively low value of timber from the 2 Aukema, J.E., B. Leung, K. Kovacs, C. Chivers, K. O. Britton, J. Englin, S.J. Frankel, R. G. Haight, T. P. Holmes, A. Liebhold, D.G. McCullough, B. Von Holle. 2011. Economic Impacts of Non-Native Forest Insects in the Continental United States *PLoS One* September 2011 (Volume 6 Issue 9)

species of ash primarily affected. Should the Asian longhorned beetle escape eradication efforts, it would add considerably to these damage estimates because of the wide range of species it attacks.

Expenditures by the US government aimed at containing or - in the case of ALB - eradicating these pests are substantial, US\$92 million per year. Nevertheless, this figure pales in comparison to the costs imposed on local governments and private property owners.

The international phytosanitary community has responded to the threat, but results so far fall short of the need.

Protective measures

The IPPC's International Standard for Phytosanitary Measures (ISPM) No. 15 specifies treatments which accepting countries should apply to wood packaging used in international commerce. It was adopted remarkably quickly - only five years after the second detection of ALB in the US raised alarm. However, continuing detections of live pests in wood packaging have raised questions about both compliance and the efficacy of the prescribed treatments.

While the numbers of wood packaging shipments in which pests have been detected has been quite low since adoption of ISPM No. 15 (ranging from 0.1 to 0.4 percent of inspected shipments³), concern remains. First, an infestation rate of 0.1 percent of incoming shipments still means at least 70,000 infested shipments moving globally each year. Furthermore, highly damaging insects continue to be found in wood packaging - the US intercepted five shipments containing ALB in 2008.⁴

ISPM No. 15 was strengthened in 2009 to limit how much tree bark may be present on the wood. Because many insects are associated with bark, compliance with this new provision should further reduce the chances of packaging carrying live insects or diseases. However, no country currently collects interception data in a manner that would allow a scientific evaluation of whether ISPM No. 15 has significantly reduced the number of pests in wood.

At the same time that the IPPC party countries tightened the requirements of ISPM#15, they lowered their expectations as to the "level of protection" the standard is supposed to provide. Originally, the parties had said that they expected adoption of ISPM No. 15 "to *practically eliminate* risk for most quarantine pests and significantly reduce risk from a number of others." However, in 2009, they changed the stated goal of the standard to a less protective one: "*reduce significantly* the risk of introduction and spread of most quarantine pests"⁵ [italics added for emphasis]. Given the damage caused by pests associated with wood packaging, the decision to lower expectations is disheartening.

Countries cannot rely on early detection and rapid response to minimise pest damage. The ALB is a large, conspicuous beetle which leaves round, 15 mm holes in affected trees; nevertheless, ALB outbreaks are usually detected only 10 3 Haack R.A., R.J. Rabaglia. 2011. Exotic bark and ambrosia beetles (Coleoptera: Curculionidae: Scolytinae) in the U.S.: potential and current invaders. In Peña JE (ed.) Potential invasive pests of agricultural crop species. CAB International, Wallingford, UK. (In press)
4 Haack, R.A., F. H'erard, J. Sun, and J.J. Turgeon. 2009. Managing Invasive Populations of Asian Longhorned Beetle and Citrus Longhorned Beetle: A Worldwide Perspective. Annu. Rev. Entomol. 2010. 55:521-46
5 Haack, R.A. and E.G. Brockerhoff. 2011. ISPM No. 15 and the Incidence of Wood Pests: Recent Findings, Policy Changes, and Current Knowledge Gaps. Paper prepared for the 42nd Annual Meeting of the INTERNATIONAL RESEARCH GROUP ON WOOD PROTECTION, Queenstown, New Zealand 8-12 May 2011

years after they have become established. Targeting high-risk sites for surveillance is also ineffective. ALB has been introduced to unexpected places that receive wood packaging in small amounts. By the time these outbreaks are discovered, they infest hundreds of trees over tens of square miles, and infested wood has often been carried to additional areas, thus spreading the outbreak.

The broader picture

The costs described in this article represent a small proportion of the overall costs imposed by invasive species introduced during the course of trade. It is impossible to calculate that figure for all types of invasive species or for most countries because so few studies have been conducted. However, some preliminary data are available. A study for the EU noted that Pimentel and others had estimated that losses caused by all invasive species in the US, UK, Australia, South Africa, India, and Brazil exceeded US\$300 billion per year. In Europe alone, the study estimated economic costs of invasions at well above 12 billion Euros per year.

Some of these invasive species were introduced deliberately - if unwisely. Examples include a significant proportion of invasive plants (taken to new areas for such uses as pasture grasses or ornamental plants) and vertebrate animals (which have been introduced as pets or as huntable wildlife, among other reasons). It is not correct, therefore, to consider all invasive species costs as trade-related externalities. However, many of the most damaging invaders are transported unintentionally during movement of goods - including insects and pathogens that attack agricultural crops (as distinct from trees).

Two years ago, the US discovered that an insect that attacks soybeans had become established; the US soybean crop is worth nearly US\$32 billion annually. The insect is expected to cause crop yield losses of approximately 20 percent. By now the insect is established across much of four states.

A second category of introductions that occurs through trade is aquatic organisms in ships' ballast water. The US National Academy of Sciences reported that one of many resulting costs - removing zebra mussels from pipes in power generation plants, public and private drinking water plants, and industrial facilities, as well as from lock and dam structures and marinas, might have reached US\$5 billion since 1989.

These studies' conclusions cannot simply be added since the authors used a variety of methodologies to develop their economic estimates. Nevertheless, they demonstrate both the global nature of the problem and the high costs associated with species introductions.

In the absence of proper precautions, the economic and environmental damage caused by introductions of invasive species impose significant costs and raise issues of equity (since the homeowners losing their trees, in this example, probably enjoy only a fraction of the benefits associated with trade). Trade officials, international trade and (phyto)sanitary bodies, and economic think tanks need to ensure adequate flexibility in sanitary and phytosanitary standards to allow quick action to close off introductory pathways and enhance resources available to sanitary and phytosanitary agencies for identifying and analysing pathways and developing effective pest-minimisation tools.

Faith Campbell is Senior Policy Representative at the Nature Conservancy, where she specialises in policy issues related to the introduction of tree-killing insects and pathogens.

Rio+20 Briefing #3: Trade issues move to the fore as countries strive to define “green economy”

Participants in recent regional meetings paving the way for the Rio+20 Conference next June have struggled to find agreement on the concept of a “green economy” - one of the two primary focal points of the meeting. While some parties see a redefinition of the economy in green terms as a path towards sustainable development, others fear the concept is synonymous with green trade protectionism and conditionalities.

In recent months, four of the Regional Preparatory meetings for the United Nations Conference on Sustainable Development (UNCSD), or Rio+20, have been convened. The conference, likely to take place from 20-22 June 2012,¹ will mark the twentieth anniversary of the 1992 United Nations Conference on Environment and Development. The conference’s objective is to secure renewed commitment for sustainable development and meet new and emerging challenges by focusing on two themes: the green economy in the context of sustainable development and poverty eradication; and the institutional framework for sustainable development.

During the four regional preparatory meetings - Latin America and the Caribbean from 7-9 September in Santiago, Chile; the Arab Region from 16-17 October in Cairo, Egypt; Asia Pacific from 19-20 October in Seoul, Korea; and Africa from 20-25 October in Addis Ababa, Ethiopia - the challenges with regard to the green economy as a Rio+20 theme cut across regions. The definition of the green economy came under fire from a number of national delegations, with many wanting clearer answers before committing themselves. This was largely blamed on a lack of an internationally-agreed definition of the term green economy.

Most clear, however, was the across-the-board insistence that the transition to a green economy must rule out any possible restrictions to trade.

Green economy takes centre stage at Latin America, Caribbean Meet

At the Latin America and Caribbean meeting last month, many delegations said they were sceptical of the utility of the green economy as a means of promoting sustainable development. Reiterating many familiar positions and concerns, some delegates questioned whether the green economy could potentially be used to justify the imposition of trade conditionalities on the basis of environmental standards as well as protectionist measures to insulate countries’ own green industries.

¹ Originally scheduled for 4-6 June, Brazil has indicated that the summit will be postponed. The change has not yet been confirmed.

Some delegates specifically questioned how complementary previously-stated development goals under the WTO’s Doha Round of trade talks - especially with regards to special and differential treatment for developing economies - are with the implementation of the green economy.

Sources at the Santiago meeting told BioRes that even Brazil, the host of Rio+20, distanced itself from the green economy by shifting the discussion away from an attempt to clearly define the term. Brazil chose instead to focus on sustainable development in the hope for finding more agreement, the source said.

These positions were translated into the official conclusion of the meeting, where no mention was made of the green economy.

Defining a green economy

The discussion of green economy also featured towards the end of the Arab Region preparatory meeting. As a concept, delegates converged around it being a possible “tool” of sustainable development, rather than replacing sustainable development.

Given the recent social upheavals occurring in the region, the discussion focused on some of the causes of this unrest. Pointing to unemployment and poverty, participants suggested that the social side of sustainable development be brought to the fore at Rio+20.

The Arab preparatory meeting ended with a set of recommendations on the green economy. These called for a clear definition, one that should not substitute sustainable development. The meeting also came up with a series of prescriptions of what the green economy should not be. These included, in particular, not allowing the green economy to become a means to limit the right of developing countries to utilise their natural resources, nor as a tool to exempt developed countries from their commitments in relation to their developing country partners.

The participants at the Asia and the Pacific meeting were reportedly more supportive of the green economy concept;

Building Trade-related Green Capacity

The Enhanced Integrated Framework (EIF) has been suggested as a possible forum to address many of the capacity-related issues that have been voiced during the Rio+20 preparatory process. Being a multi-donor program partnered with the WTO, the International Monetary Fund (IMF), the International Trade Centre (ITC), the United Nations Conference on Trade and Development (UNCTAD), the United Nations Development Programme (UNDP), and the World Bank it is well placed to reach those states who are cautious about the transition to a green economy. It would be possible for the EIF to promote the ideals of a green economy through its diagnostic trade integration studies so as to identify the key challenges as well as potential opportunities. These solutions could include policy recommendations, infrastructure investment, and skills capacity building. Supporters of the EIF say this approach would allow for a tailored transition to a green economy based on the specific needs of a state rather than a “one size fits all” model.

according to Earth Negotiations Bulletin, “most [found] merit” with the idea. However, given the strong export interests of the region, there were many who also voiced concerns regarding potential restrictions and conditionalities.

In the “Seoul Outcome,” the green economy was firmly established as one of the means to achieve sustainable development within the limitations of national circumstances and stages of development.

Green technology and investment

The Africa Consensus Statement to Rio+20 was supportive of the green economy but called for considerable support from developed countries in the transition period. The measures ranged from technology transfer to direct investment in green projects, expert advice and technical assistance. Delegates at the meeting also looked more in-depth at the linkages between trade and the green economy during a side event in Addis Ababa dedicated to this topic.

Event participants examined challenges and opportunities related to the green economy in the African context, hearing both from economists and exporters that have developed green products. The participants highlighted significant opportunities for African countries in a green economy, such as exports of organic agricultural products, forestry, and other certified products. However, they also said measures such as environmental standards need to be examined further and harmonised.

Additionally, some stressed that green subsidies used as a driver of the green economy should be time-bound and implemented according to WTO rules. One of the biggest development challenges for Africa itself is the move away from exporting raw materials and moving up the value chain in a sustainable manner, participants stressed.

The side event was co-hosted by ICTSD, the UN Environment Programme, and the UN Economic Commission for Africa.

“Green Economy” and the protectionism debate

The green economy has prompted much apprehension among stakeholders in the trade community. At all the UNCSD regional meetings thus far, many have expressed their fears that the implementation of the green economy would lead to protectionist measures. This fear is based on two assumptions: first, that the demands of developing countries for special and differential treatment would suffer under a global shift to the green economy; second, that the investment needed to promote new technologies and industries would be only developed and emerging economies would be able to support their domestic industries.

Some observers argue that without sufficient planning, such measures could indeed lead to trade distortions. In the absence of an internationally agreed framework, green standards and technical regulation could be used in a protectionist manner. The work that has been completed to date by numerous UN agencies, NGOs, and governments has laid the ground for constructive future dialogue and has indicated some clear areas in need of research. One research area that will be crucial to the discussions will be that of green subsidies and environmental taxes, so as to prove their efficiency in addition to exploring a practical manner of minimising their trade distorting impact across all sectors.

With the world population surpassing seven billion, the competition for limited natural resources will intensify in the coming years. This increasing competition has forced many actors to examine their own relationship with their environment and how it relates to future economic and social development. With reports being issued on a weekly basis documenting rapid deterioration of forests, air quality, and the marine environment, some observers argue that the effects of climate change are being amplified by environmental degradation. This has not stopped some countries from arguing that the green economy impinges on their sovereign right to benefit from the endowment of natural resources.

Next steps

A number of meetings remain in the coming months, with participants hoping to clear the discord surrounding the Rio+20 meeting and the themes it will address next June.

The final regional preparatory meeting will take place on 1-2 December in Switzerland for the UN Economic Commission for Europe which encompasses North America, Europe, Russia and Central Asia.

The penultimate Intersessional Meeting of the UNCSD will then take place on 15-16 December in New York before the final Preparatory Committee Meeting in May 2012.

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Ricardo Melendez-Ortiz

Editor-in-Chief:
Andrew Crosby

Managing Editor, Periodicals:
Andrew Aziz

Editors: Andrew Aziz and
Malena Sell
Address: 7 Chemin de Balexert
1219 Geneva,
Switzerland
Tel: +41 (0)22-917-8492
Fax: +41 (0)22-917-8093
Email: biores@ictsd.ch
Web: <http://ictsd.org>

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Upcoming Events

November 2011

- 7-11 Beijing, China. SECOND ASIA PACIFIC FORESTRY WEEK.
- 8-10 Geneva, Switzerland. UNCTAD SECOND EXPERT MEETING ON TRADE IMPLICATIONS OF THE GREEN ECONOMY.
- 9 Montreux, Switzerland. PEFC STAKEHOLDER DIALOGUE: RECOGNIZING THE REAL VALUE OF FOREST PRODUCTS IN A CHANGING CLIMATE.
- 9-12 Sydney, Australia. GREENING CITIES CONFERENCE 2011.
- 16-18 Bonn, Germany BONN 2011 CONFERENCE: THE WATER, ENERGY AND FOOD SECURITY NEXUS - SOLUTIONS FOR THE GREEN ECONOMY.
- 28-30 Monaco, Monaco. HIGH-LEVEL EXPERT MEETING ON THE SUSTAINABLE USE OF OCEANS.
- 28-9 Durban, South Africa. THE 17TH CONFERENCE OF THE PARTIES (COP17) TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC).
- 30-1 Washington DC, US. STANDARDS IN SOUTH-SOUTH TRADE AND OPPORTUNITIES FOR ADVANCING THE SUSTAINABILITY AGENDA.

December 2011

- 1-2 Geneva, Switzerland. UNCSD REGIONAL PREPARATORY MEETING FOR THE ECE REGION.
- 3 Durban, South Africa. OCEANS DAY AT UNFCCC.
- 5-6 December, Durban, South Africa. THE DURBAN TRADE AND CLIMATE CHANGE SYMPOSIUM AT COP 17 / CMP 7.
- 7-9 Bergen, Norway. CBD JOINT EXPERT MEETING ON ADDRESSING BIODIVERSITY CONCERNS IN SUSTAINABLE FISHERIES.
- 12-15 Abu Dhabi, UAE. EYE ON EARTH SUMMIT: PURSUING A VISION.
- 12-15 Saint-Denis, Reunion. INTERNATIONAL CORAL REEF INITIATIVE GENERAL MEETING 2011.
- 15-16 New York, USA. SECOND INTERSESSIONAL MEETING FOR UNCSD.
- 15-17 December, Geneva, Switzerland. GENEVA TRADE AND DEVELOPMENT SYMPOSIUM.
- 15-17 December, Geneva, Switzerland. EIGHTH WTO MINISTERIAL CONFERENCE.

January 2012

- 16-19 Abu Dhabi, UAE. FIFTH WORLD FUTURE ENERGY SUMMIT.
- 16-20 Cotonou, Benin. 18TH SESSION OF THE AFRICAN FORESTRY AND WILDLIFE COMMISSION.

Resources

ICTSD Resources

- FOSTERING LOW CARBON GROWTH: THE CASE FOR A SUSTAINABLE ENERGY TRADE AGREEMENT. By ICTSD Global Platform on Climate Change, Trade and Sustainable Energy. (November 2011).
- POST-2013 EU COMMON AGRICULTURAL POLICY, TRADE AND DEVELOPMENT: A REVIEW OF LEGISLATIVE PROPOSALS. By Alan Matthews. (October 2011).
- FACILITATING TRADE IN SERVICES COMPLEMENTARY TO CLIMATE-FRIENDLY TECHNOLOGIES. By Joy Aeree Kim. (October 2011).
- SUBMISSION TO UNFCCC ON INFORMATION AND VIEWS RELATING TO MODALITIES FOR THE OPERATIONALIZATION OF A WORK PROGRAMME AND POSSIBLE FORUM ON RESPONSE MEASURES. By ICTSD Global Platform on Climate Change, Trade and Sustainable Energy. (September 2011).
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- FEED-IN TARIFFS FOR RENEWABLE ENERGY AND WTO SUBSIDY RULES: AN INITIAL LEGAL ANALYSIS. By Marie Wilke. (August 2011).

Other Resources

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- RISKS AND USES OF THE GREEN ECONOMY CONCEPT IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT, POVERTY AND EQUITY. By Martin Khor. South Centre. (July 2011).
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- ECOLOGICAL FOOTPRINT ANALYSIS SAN FRANCISCO-OAKLAND-FREMONT, CA. Global Footprint Network. (June, 2011).